

REMARKS

Claim 19 is amended to place it in independent form by including the limitations of parent claims 1, 13, and 14. No new matter is added. As the only claim amendment is placing a dependent claim in independent form without adding any new limitation, no new search or consideration is required for entry of this amendment.

The Examiner maintained the § 102 rejections of independent claims 1, 26, and 31. An anticipation rejection can stand only if the identical invention is shown in a prior art reference in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The claim limitations must appear in the prior art reference "arranged as in the claim." *Brown v. 3M*, 265 F.3d 1349, 60 USPQ2d 1375 (Fed. Cir. 2001). Ketcham simply does not disclose every limitation of claims 1, 26, or 31, and those claim limitations it can be said to disclose are not arranged as in the claims.

In rejecting every limitation of all three independent claims, the Examiner relies on a single passage in Ketcham (col. 4, lines 16-34) and Figure 1. Col. 4, lines 16-34 describes the authentication processes between a network server and a remote terminal. col. 4, lines 17-18, *et. seq.* The passage is silent as to any first/non-provisioned or second/provisioned wireless device, and is silent as to any wireless network. The Examiner relies solely on the disclosure of Fig. 1 in meeting these claimed limitations.

Second/Provisioned Wireless Device

Ketcham does not disclose the second wireless device of claim 1, the provisioned wireless device of claim 26, or the wireless device of claim 31. The Examiner asserted, "Ketcham discloses a remote terminal (102 of Fig 1) which is the second wireless device . . ." The remote terminal 102 is described at col. 5, lines 6-14:

As used herein, the term "remote terminal" refers to any known interfacing device such as a personal computer, notebook computer, or other mobile computer-type interfaces. Such "remote terminals" may be autonomous devices such as personal computers capable of independent functionality, or they may be

simplified devices possessing minimal computation capabilities and thus primarily configured to receive and display information.

As expansive as that definition is regarding the functionality of the remote terminal 102, it is completely devoid of any hint or suggestion – much less disclosure – that the remote terminal 102 is a wireless device. Indeed, the fact that Ketcham discloses the remote terminal 102 needs a cellphone as a wireless modem 110 to communicate with the network server 108 teaches away from the idea that Ketcham's remote terminal 102 has inherent wireless communications capabilities. The remote terminal 102 cannot possibly be a “second wireless device” or a “non-provisioned wireless device” – it is not a wireless device at all (as recited in claim 31). For at least this reason, Ketcham fails to disclose each and every claimed limitation, and the § 102 rejections of claims 1, 26, and 31 must be withdrawn.

First Wireless Network

The Examiner then asserted, "Ketcham discloses ... a first wireless network (104 of Fig 1)." Figure 1 discloses a network 104 (bounded by a dotted line that excludes the radio transceiver 112) comprising a network server 108 having wired connections to two local terminals 106. There is no hint or suggestion – and certainly no disclosure – within Figure 1 that the network 104 has any wireless component or communicates across any wireless link. Ketcham makes this clear at col. 5, lines 33-35: “A computer network 104 is comprised of a plurality of local terminals 106 physically and operably coupled for beneficial processing.” (emphasis added). The essence of a wireless communication network is that its constituent nodes or other entities do not need to be physically coupled to effect communications.

Ketcham discloses a wireless communication channel 114 that is separate and apart from the network 104 (see the dotted line boundary of 104 in Figure 1), described at col. 5, line 63 - col. 6, line 2:

[T]o facilitate interaction with computer network 104, a wireless communication channel 114 is established. Wireless communication channel 114, in the preferred embodiment, utilizes a wireless infrastructure 112 for interfacing to

network server 108. Such wireless infrastructures may take the form of conventional cellular technologies such as analog and digital cellular.

(emphasis added). Ketcham does not disclose that the wireless infrastructure 112 forms any part of the network 104. In fact, Ketcham discloses precisely the opposite, in referring to it as a "wireless infrastructure." Furthermore, Ketcham discloses that the wireless infrastructure 112 is utilized for interfacing to a network server 108, again indicating that it is not part of the network 104. Finally, Ketcham discloses that the wireless infrastructure 112 may take the form of conventional cellular technology. It is well known in the art that cellular systems – even when they provide communication services between mobile terminals and one or more wired networks – do not form a part of the wired networks. Cellular systems are "stand-alone" communication networks.

Ketcham discloses a remote terminal 102 communicating with a wired network 104, utilizing communication services provided by a wireless infrastructure 112 (accessed via a wireless modem 110). The only network in that disclosure is the wired network 104 (and the only wireless device is the wireless modem 110). For at least the reason that Ketcham fails to disclose the claimed "first wireless network" of claim 1, or the wireless network of claims 26 and 31 to which authentication occurs, the § 102 rejections of claims 1, 26, and 31 must be withdrawn.

Collective System Authentication

In the Response to Arguments, the Examiner stated:

Ketcham discloses a method of authentication in which a system, comprised of a remote terminal (102 of Fig 1) and its accompanying wireless modem (110 of Fig 1), is authenticated to a first wireless network (104 of Fig 1). Hence, the remote terminal and the wireless modem are collectively authenticated as part of system authentication. The system of Ketcham differs from a typical computer in that the modem is external. However, in both a typical computer authentication (with an internal modem) and the authentication present in Ketcham (with an external modem), it is the computing system which is authenticated, not any part or particular piece of hardware. The fact that the modem is external in Ketcham makes no difference to system authentication.

This reasoning may be applicable in anticipating a claim directed to a remote terminal and a wireless modem that are "collectively authenticated as part of system authentication." However, it is inapposite to claims 1 and 26 of the instant application. Neither claim 1 nor claim 26 recites any system, or collectively authenticating a system. Claims 1 and 26 recite two separate and distinct wireless devices. The two wireless devices are recited as performing specific, clearly defined method steps. In particular, the second wireless device "calculat[es] an authentication response" based on its own key, and the first wireless device "transmit[s] said authentication response . . . to said first wireless network to authenticate said first wireless device to said first wireless network." Claim 26 recites the same limitation for the non-provisioned wireless device.

Claim 1 does not recite first and second wireless devices forming any "system," and does not recite any "system authentication." Rather, claim 1 clearly recites that a response to an authentication challenge received by a first wireless device is calculated in a second wireless device and provided to the first wireless device "to authenticate said first wireless device to said first wireless network." The plain language of claim 1 makes a clear, unambiguous distinction of which of the two separate wireless devices is authenticated: it is the wireless device which does not calculate the authentication response. The distinction between a provisioned wireless device calculating an authentication response and a non-provisioned wireless device forwarding the response to authenticate the non-provisioned device is equally clear in the plain language of claim 26. Neither limitation can be ignored, Ketcham does not disclose or suggest it, and the Examiner is not free to transmogrify the separate wireless devices of claims 1 and into some merged "system" that is "collectively authenticated as part of system authentication." Ketcham simply does not disclose that the remote terminal¹ 102 calculates an authentication response for the wireless modem 110, to authenticate the wireless modem 110 to a wireless network² – which is the disclosure required to anticipate claims 1 and 26, using the Examiner's

¹ Which is not a wireless device, as recited in claim 1.

equivalences. For at least the reason that Ketcham fails to disclose the claimed limitation that the first/non-provisioned wireless device is authenticated, the § 102 rejection of claim 1 and 26 must be withdrawn.

In the Amendment of August 16, 2005, p. 10, lines 10-11, Applicant observed, "However, it is the second device – the remote terminal 102 – that is authenticated. The first device – the cell phone 110 – is merely a communications channel." In the Final Office Action, the Examiner agreed with this observation, stating, "The system of Ketcham differs from a typical computer in that the modem is external," and, "The fact that the modem is external in Ketcham makes no difference [over a computer having an internal modem]." Thus the Examiner agrees that the wireless modem 110 is precisely as Applicant characterized it: a communications channel. As well known in the art, modems are merely communication peripherals to computing devices, and they are not independently authenticated to secure networks.

The Examiner appears to be presenting the argument "since the modem is just part of a "system" and the "system" is authenticated, then the modem itself is authenticated. This argument fails scrutiny for several reasons. First, it is nonsensical to assert that a peripheral – which is itself incapable of being authenticated – is authenticated whenever the "system" in which it resides is authenticated. By that logic, a mouse or a display screen is authenticated anytime the "system" to which it is connected is authenticated. Those of skill in the computing arts would find such an assertion ludicrous.

Second, the "system" argument is an admission that Ketcham fails to disclose all claimed limitations. While the wireless modem 110 is undoubtedly a wireless device, the remote terminal 104 alone (as pointed out above) is not. Absent the wireless modem 110, the remote terminal 104 has no disclosed wireless communication or data transfer capability whatsoever. It becomes a "wireless device" only when the wireless modem 100 is attached –

² Network 104 is not a wireless network, as recited in claim 1.

that is, it is the “system” of the remote terminal 104 and the wireless modem 110 that is a wireless device. The Examiner admitted as much by stating, “The system of Ketcham differs from a typical computer in that the modem is external.” (emphasis added). While this “system” is a wireless device that performs authentication, claims 1 and 26 explicitly recite two independent wireless devices, one of which calculates an authentication response to authenticate the other to a network. At most, the “system” of Ketcham is a single wireless device that authenticates itself to the network. This does not anticipate claim 1 or 26.

Finally, the Examiner has already admitted that the remote terminal 104 and the wireless modem 110 are separate elements, when explicitly equating them to the claimed second and first wireless devices, respectively. In anticipating the steps of receiving an authentication challenge, forwarding the authentication challenge, receiving an authentication response, and transmitting the authentication response, the Examiner considers the wireless modem 110 separate from the remote terminal 104. Yet, to anticipate the claim limitation that the authentication response is transmitted to the network to authenticate the first/non-provisioned wireless device – then the wireless modem 100 is not a separate device at all, but is part of a “system.” Such inconsistent, tendentious application of the prior art cannot stand.

Claim 31

Regarding claim 31, the examiner stated, “Again, it is the system consisting of the wireless modem and the remote terminal which gains access to the wireless network.” All of Applicant’s arguments regarding the “system” concept above are fully applicable to the rejection of claim 31, and are incorporated herein by reference.

The Examiner stated, “Further, the examiner fails to see the applicant’s reasoning that the remote terminal gains access to the network but the wireless modem doesn’t. The role of the wireless modem (110 of Fig 1) is to gain access to the wireless network (104 of Fig 1) through the wireless interface (114 of Fig 1) and to communicate data received from the

wireless network to remote terminal over a cord (Fig 1)." The modem achieves physical access to the network whether the "system" is authenticated or not. This is necessary for the server 108 to issue an authentication challenge to the remote terminal 104, and to communicate the response back to the server 108. In the context of network security, the term "access" is understood by those of skill in the art to mean security access. This is clear from Applicant's use of the term in the Specification:

User access to wireless local area networks is typically restricted, such as by subscription, with only subscribed users granted access, or on a pay-per-use basis. In either case, access to the resource is usually only granted following a registration procedure, which typically includes an authentication process to prevent unauthorized or fraudulent access. . . .

Generally, authentication includes a challenge-response process, in which the wireless service network transmits a "challenge" to the user's device, in the form of a particular code or digital sequence. The device receives the sequence, and generates a "response" utilizing a secret "key" or code. The device sends the response to the network, which compares it against an anticipated response. If the response is proper, the user is authenticated and the registration or transaction proceeds. If the response is incorrect, the network may re-issue one or more challenges, and may eventually deny access to the requested service or transaction if the user's device cannot generate a proper response.

This meaning of "access" in claim 31 would be clear to one of skill in the art. Indeed, adopting the Examiner's use of the term to mean physical access would be nonsensical. Claim 31 recites that the non-provisioned device received an authentication challenge from the wireless network, and transferred it to the provisioned device. Further claim 31 recites transferring to the non-provisioned device an authentication response "to be used by the non-provisioned wireless device to access the wireless network." The non-provisioned device could not possible "use" the response to gain physical access to the network – physical access is a prerequisite to "using" the response (i.e., submitting it to the network in response to the authentication challenge) to gain security access. For at least the reason that Ketcham fails to disclose a non-provisioned wireless device gaining security access to a wireless network, the § 102 rejection of claim 31 must be withdrawn.

Ketcham fails to anticipate claims 1, 26, or 31. As all dependent claims include all limitations of their parent claim(s), all claims are patentably novel over Ketcham. As the combination of Ketcham with Eberhard does not cure the failure of Ketcham to disclose the claimed limitations, all pending claims exhibit patentable nonobviousness over the art of record.

For the forgoing reason, it is respectfully urged that the present application is in condition for allowance and notice to such effect is respectfully requested.

Respectfully submitted,

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